

FireStore™

FS-3

DV Video Disk Recorder



USER GUIDE

Version 1.2

FOCUS
enhancements

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

IMPORTANT NOTICE

(For U.S.Model)

The serial number for this equipment is located on the bottom of the unit. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

CAUTION:

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

NOTE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to

which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

INFORMATION TO USER

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

CAUTION:

- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- The use of optical instruments with this product will increase eye hazard.

THE ON/OFF SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION.

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE A (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

IMPORTANT

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT SAFETY INSTRUCTIONS

READ INSTRUCTIONS – All the safety and operating instructions should be read before the product is operated.
RETAIN INSTRUCTIONS – The safety and operating instructions should be retained for future reference.
HEED WARNINGS – All warnings on the product and in the operating instructions should be adhered to.
FOLLOW INSTRUCTIONS – All operating and use instructions should be followed.
CLEANING – Unplug this product from the wall outlet before cleaning. The product should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.
ATTACHMENTS – Do not use attachments not recommended by the product manufacturer as they may cause hazards.
WATER AND MOISTURE – Do not use this product near water – for example, near a bathtub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
ACCESSORIES – Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious injury to a child or an adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
CART – A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

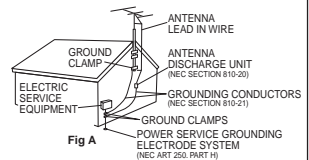


VENTILATION – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
POWER SOURCES – This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.

LOCATION – The appliance should be installed in a stable location.
NON-USE PERIODS – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
GROUNDING OR POLARIZATION –
 • If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
 • If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
POWER-CORD PROTECTION – Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit the product.

OUTDOOR ANTENNA GROUNDING – If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electric Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding connectors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.
LIGHTNING – For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
POWER LINES – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
OVERLOADING – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

OBJECT AND LIQUID ENTRY – Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
SERVICING – Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
DAMAGE REQUIRING SERVICE – Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 • When the power-supply cord or plug is damaged.
 • If liquid has been spilled, or objects have fallen into the product.
 • If the product has been exposed to rain or water.
 • If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 • If the product has been dropped or damaged in any way.
 • When the product exhibits a distinct change in performance – this indicates a need for service.
REPLACEMENT PARTS – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
SAFETY CHECK – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
WALL OR CEILING MOUNT – The product should not be mounted to a wall or ceiling.
HEAT – The product should be situated away from heat sources such as radiators, heat, registers, stoves or other products (including amplifiers) that produce heat.



EMT

ELECTRO MAGNETIC TEST, INC.

1547 Plymouth Street, Mountain View, CA 94043

Tel: (650) 965-4000 Fax: (650) 965-1000

Statement of Compliance

Presented to

FOCUS ENHANCEMENTS, INC.

The following model was tested and found to be fully compliant with:

- FCC Part 15 Class A
- ICES-003 Class A
- EN 55022 Class A
- EN 55024
- EN 61000-3-2 Class A & EN 61000-3-3

PORTABLE DV VIDEO HARD DISK RECORDER

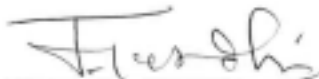
M/N: DR-DV5000/FS3

Tested at Electro Magnetic Test, Inc. on June 9, 11, and 12, 2003

Certificate Number: 15971



Kevin Bothmann
Lab Manager



Jay Gandhi
President

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For customers within the USA and Canada, FOCUS Enhancements, Inc. warrants this product against defects in materials or workmanship as follows:

For a period of TWO years from the date of purchase, FOCUS Enhancements, Inc. will repair or replace the unit, at our option, without charge for parts or labor. After the period of TWO years, you must pay all parts and labor charges.

The limited warranty is extended only to the original purchaser. It does not cover damage or failure caused by or attributable to Acts of God, abuse, misuse, improper or abnormal usage, faulty installation, improper maintenance, lightning, or other incidences of excessive voltage, or any repairs or tampering by other than the FOCUS Enhancements repair facility. It does not cover replacement of batteries or other consumable parts, transportation costs or damage in transit. This warranty will become void if the serial number or model number identification has been wholly or partially removed or erased. Repair or replacement under the terms of this warranty do not extend the terms of this warranty. Repairs or replacement performed outside of the warranty period will carry a warranty for 60 days from return shipment. This warranty can not be modified by an agent of FOCUS Enhancements, Inc. unless in written and signed by an officer of FOCUS Enhancements, Inc.

Should this product prove defective in workmanship or material, the consumer's sole remedies shall be such repair or replacement provided by the terms of this warranty. Under no circumstances shall FOCUS Enhancements, Inc. be liable for any loss or damage, direct, consequential, or incidental, arising out of the use of or inability to use this product. Some states do not allow limitations on how long an implied warranty lasts or the exclusions or limitations of incidental or consequential

damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Before requesting warranty or repair service, refer to <http://www.focusinfo.com/support/>, to review the Trouble Shooting guidelines and the FAQs.

In the United States or Canada, to obtain warranty service, call or write the FOCUS Enhancements, Inc. Technical Support Line for a Return Material Authorization (RMA) number. Technical Support can be reached at:

Email: support@FOCUSinfo.com
 Telephone: 408-370-9963 8AM – Noon and 1PM - 5PM (PST), Monday to Friday (Hint: Mondays tend to be the busiest)
 Fax: 408-866-4859
 Address: FOCUS Enhancements, Inc.
 1370 Dell Ave.
 Campbell, CA. 95008

Please mark the RMA number clearly on the outside of the package. Include a copy of your sales receipt, a brief description of the symptoms, your name, address within the USA or Canada, phone number and any special shipping instructions. Then deliver or ship the product, postage and shipping costs prepaid, to the address above.

For customers outside the USA or Canada, A warranty can only be offered through your dealer or distributor and not through FOCUS Enhancements directly, for this product. Please contact your dealer or distributor for repairs or technical support. Refer to <http://www.focusinfo.com/order-desk> under, "FOCUS Resellers Worldwide", for a list of International Dealers and Authorized Service Centers.

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INTRODUCTION

Thank you for purchasing the Focus Enhancements FireStore FS-3 DTE DV Video Disk Recorder for full-size DV camcorders. FS-3 adds a digital disk recorder/player to your camcorder for a powerful acquisition combination.

This User Guide is to be used with software version 1.2 or higher. See page 25 of this manual for more information to verify which software version you are using.

The purpose of this User Guide is to explain the features and operation of the FireStore FS-3. You have also received an FS-3 QuickStart guide which should be kept for quick future reference. Please study the contents of this User Guide before attempting to use your FS-3.

Check the Focus Enhancements website regularly for updates to software and documentation and if you have questions or require further assistance with your FireStore FS-3, please visit:

www.focusinfo.com/support

Alternatively, contact your Focus Enhancements FireStore dealer/distributor.

PACKAGE CONTENTS

Please take a moment to study the contents of your FireStore FS-3 package. You should have the following contents:

- One (1) FireStore FS-3 unit w/ your selected battery plates (FS-3 V-Mount, FS-3 Anton/Bauer, FS-3 PAG-Lock or FS-3 NP. The NP version also includes a pair of captive screws)
- One (1) FireStore FSHDD-1 FireWire Hard Disk Drive (HDD)*
- One (1) 6-pin to 4-pin Right Angle FireWire cable.
- One (1) 6-pin to 6-pin Right Angle FireWire cable.

- One (1) NP Adapter Plate w/ (4) four mount screws. (FS-3 NP version only)
- User Guide
- QuickStart Guide

If any of these contents are missing, please contact Focus Enhancements or your FireStore dealer/distributor immediately.

You may need to purchase cables to connect more than one hard disk drive to FireStore FS-3 at a time. Your Focus Enhancements dealer can help you identify additional cables you may need.

* Depending on the model number that is ordered, drive capacity may vary. Please verify that you have received the correct FireStore FSHDD-1 capacity that you ordered.

WHAT IS A DTE DISK RECORDER?

A DTE DV Disk Recorder is a device that allows you to record/playback DV video directly to/from a removable FireWire hard disk drive without using a computer. Video is input or output as a *DV Video Stream* through FireStore which writes/reads a DV data stream in NLE native file formats from/to a FireWire hard disk drive.

WHAT IS FIRESTORE FS-3?

FireStore FS-3 is a DTE DV Disk Recorder that mounts directly to full size DV camcorders. With FireStore FS-3, it is possible to:

- Input or output DV video from/to DV camcorders. It is also possible to use it stand-alone with virtually any DV video device
- Capture clips to hard disk at the acquisition stage - there is no need to capture later.
- Simultaneously record to disk while recording to your camcorder's tape.
- Record clips to disk in DTE Technology

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based “edit-ready” file formats such as Raw DV, AVI Type 1, AVI Type 2, Matrox AVI, Canopus AVI, QuickTime and Avid DV-OMF. This means clips are immediately available to your NLE system without first having to transfer or convert the clips.

- Connect your FireWire disk directly to your computer or connect via FireStore which allows mount and dismount of the drives without re-cabling or computer re-boots.
- Jump from clip to clip without spooling through tape when in playback mode.
- As well as video, record and playback embedded DV audio in either 2-ch (16-bit, 48kHz) or 4-ch (12-bit, 32kHz) formats.
- Record source timecode from your camcorder or create your own Free Run, Regen or Rec Run timecode. It is also possible to preset timecode and user-bit values.
- Record, play and navigate using FireStore FS-3’s VTR style controls.
- Record and recall a single frame of DV video. Also record user definable time-lapse sequences.
- Slow playback down or speed it up by 1 frame per second increments.
- Use trick playback modes such as up to 30X/-30X fast-forward and rewind speeds, reverse play, loop clip and loop entire disk.
- Control FS-3 remotely via FireWire (for triggering record/pause or AV/C) from a DV based camcorder GPI port. Alternatively, control FS-3 via RS-232C (using the optional 3.5mm to DB-9 cable), wired remote or infrared remote control, all of which are available as accessories.
- Daisy-chain up to four FireWire (IEEE-1394) hard drives (in addition to the internal

removable FSHDD-1 FireWire hard drive) together for extremely long, uninterrupted record times.

BASIC APPLICATIONS

FireStore FS-3 can be used in the acquisition stage of production, the editing/post production stage and the presentation stage. FireStore FS-3 is most useful in the following applications:

- Record DV video live to disk at the acquisition stage. Not only will you have an exact copy of your camcorder’s tape footage on disk with the same timecode, audio and video information, it will be possible to quickly review shot footage back through your camcorder without risking damaging the tape in your camcorder’s tape transport. This “confidence recording” will save time and reduce costly re-shoots during production.
- Clips are recorded in DTE Technology based “edit-ready” file formats such as RawDV, AVI Type 1, AVI Type 2, Matrox AVI, Canopus AVI, QuickTime or Avid DV-OMF. This will allow you to get your footage onto a computer (Mac or PC) and view or edit it quickly. The FireStore FSHDD-1 or external FireWire disk drive can either be connected directly to your computer (without FireStore) or through FireStore which allows you to mount/un-mount any connected drives without re-cabling or re-booting. This also allows you to capture footage to disk without tying up your computer.
- Playback DV video clips that were recorded to a connected FireWire hard disk drive from FireStore FS-3 to any DV video device such as a mixer, camcorder or deck. Use FireStore’s random access capabilities to navigate quickly from clip to clip without having to spool forward and backward through tape. Use FireStore FS-3’s trick playback modes such as multi-speed fast forward, incremental 1 frame per second slow motion and reverse play to present DV video in industrial, presentation or scientific applications.

MOUNTING TO A CAMCORDER

The FireStore FS-3 is designed to mount directly to full size DV camcorders. FireStore FS-3 features either Anton/Bauer, V-Mount, PAG Lock or NP mount plates allowing quick connection to most camcorders featuring these battery systems.

Mounting to Anton/Bauer, V-Mount or PAG-Lock Equipped Camcorders

To mount to camcorder's featuring either an Anton/Bauer, V-Mount or PAG Lock battery system, do the following:

- 1) Remove any connected battery from the camcorder's battery mount plate.



- 2) Connect the FS-3 unit to the battery mount plate on the rear of the camcorder.



- 3) Attach the battery to the rear of the FS-3 unit.



Mounting to NP Battery Equipped Camcorders

To mount to camcorder's featuring NP battery systems, do the following:

- 1) Remove and disconnect the attached battery system from the camcorder. Consult either your camcorder's documentation or documentation from your battery system for more detailed information on removing the battery system. Leave any existing rubber gasket between the camcorder and battery system in place.

- 2) Mount the NP adapter plate to the rear of the camcorder with the supplied four screws (the plate mounts to the rear of the camcorder utilizing the same mount holes the NP battery case mounts to).



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3) FS-3 features a two wire connector with black and red cables that connects main power between the FS-3 and the camcorder. Connect this to the equivalent connector on the rear of your camcorder.

If you are using a digital battery system that passes battery life status to the camcorder, and are using a camcorder that is compatible with these systems, connect the following cables between FS-3 and camcorder (FS-3 NP version only):

Anton/Bauer Digital Battery System
- Grey and Orange Cable

IDX Synchron Digital Battery System
- Blue and Red Cable.

4) "Hook" the FS-3 to the adapter plate on the rear of the camcorder (these hooks are unique to the FS-3NP model). Insert the supplied gasket between the plate and the FS-3 unit. Harness any loose cables into the "Hidey-Hole" on the FS-3.

5) Once mounted, secure the two captive screws at the base of the FS-3 to the camcorder. Ensure that no cables are "pinched" between the FS-3 and the camcorder.



6) Re-attach the battery system to the rear of the FS-3. Ensure to connect all cables and utilize the supplied gasket between FS-3 and the battery system. Harness any loose cables into the "Hidey-Hole" on the FS-3.

CONNECTING A FIREWIRE CABLE BETWEEN FS-3 AND CAMCORDER

Connect either the 6-pin to 6-pin or 6-pin to 4-pin FireWire cable between the FS-3's "DV I/O" port and the camcorder's DV interface.



INSERTING AND REMOVING FIRESTORE FSHDD-1 FIREWIRE DRIVES

The best way to get to know the FireStore FSHDD-1 FireWire HDD is by studying the supplied manual. The manual provides detailed instructions and illustrations.



INSERTING THE HDD: Insert the drive into the slot on top of the FS-3 unit. Ensure that the power switch on the bottom side of the drive is set to “On” before inserting. The drive will only insert one way and features a “key” on one side to prevent incorrect insertion. Press down on the drive handle firmly until the handle meets the top of FS-3. If power is on, you will observe the power LED light up green.



REMOVING THE HDD: Slide the HDD release latch on the FS-3 top plate toward the battery system. Once slid as far as possible, hold the latch while at the same time grasping the FSHDD-1 drive handle and pulling the HDD out from FS-3.

WARNING: Make sure FS-3 is in STOP mode before removing the disk drive from the system. Do not attempt to remove when FS-3 is in REC or REC-PAUSE mode.

USING EXTERNAL FIREWIRE DISK DRIVES

In addition to using FireStore FSHDD-1 FireWire HDDs in the internal slot on FS-3, it is also possible to connect any FireWire disk drive to the HDD I/O port on FS-3. Power a single FireWire disk drive on FS-3 at any given time (either internal or external). If external drives are being used as additional volumes to the inserted FSHDD-1 FireWire HDD, it will be necessary to provide external power to these drives. It may also be necessary to partition and format drives before use with FS-3. See page 31 of this user guide for instructions on preparing drives before use.

NOTE: It is possible to “hot swap” both internal and external FireWire HDDs on FS-3. Drives can be disconnected and connected from the system without the need to power cycle the unit. Ensure that FS-3 is in STOP mode before removing a disk drive.

PHYSICAL FEATURES

Your FireStore FS-3 features two main surfaces, the front panel and the rear connector panel.

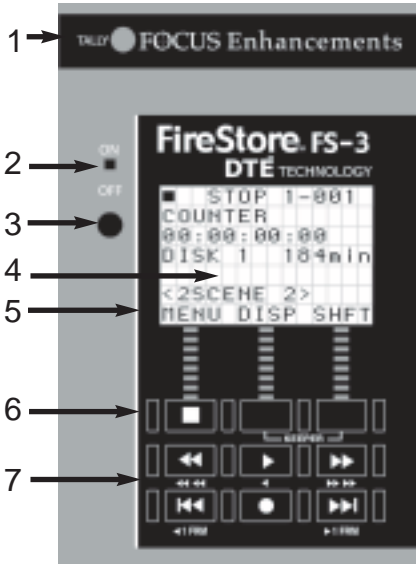
FRONT PANEL

The front panel contains the backlit LCD and nine buttons for controlling FireStore’s functions. The top row of buttons act as Soft

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Keys and provide the function displayed on the bottom of the LCD.

The front panel also features a tally light, infrared remote sensor and power switch.



1. Tally Light

The FS-3 red tally light is located at the top of the FS-3 front panel. In general, this light will flash when FS-3 is in REC/PAUSE mode and be solid when in RECORD mode. This light is also used to warn the user when an error or warning message appears on the FS-3 LCD display. See the “FS-3 LCD DISPLAY AND TALLY MODES” section on page 41 of this User Guide for more information on tally light status.

2. Power Switch

FireStore FS-3’s power switch is located on the top left side of the front panel. This switch, although mechanical, is controlled via software. When the power switch is set to ON and then OFF, in most cases the unit will take

a moment to power down. During this time, FS-3 is ensuring that any files that have not been closed properly in a record session get closed. This prevents errors occurring on particular files.

3. Infrared Remote Sensor

The FS-3 infrared remote sensor is for use with the optional FS-3 infrared remote commander. For information on the FS-3 infrared remote commander, see “FS-3 REMOTE CONTROL COMMANDERS on page 38 of this User Guide. This port can be disabled in infrared noisy environments if desired in the FS-3 settings menu.

4. LCD Display Screen

The FS-3 LCD screen displays status, setup and warning/error messages relating to FS-3. The LCD backlight is set as default to ON, but this can be set to OFF or AUTO-OFF mode if desired. See page 28 of this User Guide for details.

5. Keypad Soft Key Function

The bottom line of the FS-3 LCD screen displays Soft Key functions for the top row of buttons. Soft Keys allow the function of the top row of buttons to change depending on particular modes.

6. Keypad Soft Key

The top row of buttons on the FS-3 front panel are dedicated Soft Keys. Soft Key functions change depending on what mode FS-3 is in. Current Soft Key function is displayed on the bottom row of the LCD screen. The left key on the top row of buttons acts as a Soft Key and as the STOP key during record sessions. The right key also acts as a SHIFT key which allows Standard Keys to have a secondary function.

7. Keypad Standard Keys

The bottom two rows of keys on the FS-3 keypad have dedicated functions such as fast forward/back search, play, record, and index forward back. Each key (except record) also has a SHIFT mode which allows a secondary function to be performed.

LCD DISPLAY

The FS-3 LCD screen displays different FS-3 modes and states. On boot up, FS-3 will display the following screen:



Depending on the connected disk drive, FS-3 may or may not display “Please Wait” during boot up.

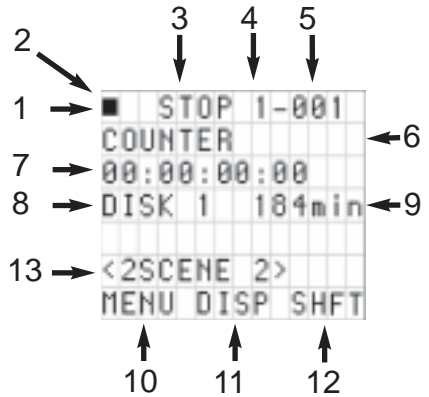
Once booted up, if no disk drive is connected to the FS-3 (either through the internal slot or externally via the HDD I/O port), the following screen will appear:



Insert a FireStore FSHDD-1 FireWire HDD to the internal drive slot or connect a FireWire disk drive to the HDD I/O port. If a FSHDD-1 FireWire HDD comes from the factory, it should be configured and ready to use. If the message

“No Disk Detected” appears, ensure you have a FSHDD-1 FireWire HDD inserted properly. If the message “No Format Detected” appears, you will first need to partition and format the inserted drive. FS-3 will prompt you through the steps required to perform a format. **WARNING:** Formatting will erase all data on disk!

Once ready for use, the FS-3 default Splash Screen will appear as follows:



1. Play/Record Status Symbol

This symbol displays a graphical representation of the current FS-3 playback, stop, record or pause state.

2. Record/Play Status Indicator

In this space, FS-3 will display a character that notifies the user what record or playback mode they are in. The characters displayed and their respective modes are listed on page 41 of this User Guide.

3. Current System Status

The current status of FS-3 will be displayed in this area. For instance, it will display whether FS-3 is in record, play, stop, pause, fast search or slow motion modes.

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4. Volume Number

The volume or disk number of the current clip recording or playback session is displayed in this area of the LCD. For example, a display value of "2-014" identifies a track as being on volume 2.

5. Track or Clip Number

This area displays the current clip or track number being recorded or played back. For example, a display value of "2-014" identifies a track as being clip 14 on volume 2. If a track number has an "*" immediately following it, that particular track has been marked as a "Keeper" track. See page 15 of this User Guide for more information.

6. Timecode/User Bit Display Mode

This identifies the display mode for timecode or user bit values. Selections are:

- COUNTER - counts frames during record or playback of the current clip only.
- REMAINING - counts down the number of frames available (time) on a particular disk during a record session. In a playback session, this display shows the remaining time on the current clip.
- DV NTSC (or PAL) - Displays the external timecode value being generated by a camcorder or other device during a record session. Timecode mode has to be set to EXT TC for this function to operate (see page 26 of this User Guide). In playback mode, this displays the embedded DV timecode value in a particular track.
- UB NTSC (or PAL) - Displays the set user bit value in a particular clip. A user bit value must be added for this to display (see page 27 of this User Guide).
- ABSOLUTE - Displays an absolute timecode value for the particular session (sum of all

COUNTER timecode on connected volumes). This is mainly used when FS-3 is set to AV/C mode and is being controlled by an external FireWire device such as a computer.

7. Timecode or User Bit Value

Displays the timecode or user bit value of display mode selected.

8. Current Disk Volume

Displays the current disk volume in relation to available space.

9. Available Space on Volume

Displays the space in time available on the current volume.

10. Soft Key One Function Display

Displays the current function related to Soft Key one (left key on the top row of buttons). This is typically the main soft key for opening the FS-3 MENU and is also used as a STOP key during record and playback sessions.

11. Soft Key Two Function Display

Displays current function of Soft Key two (middle key on the top row of buttons).

12. Soft Key Three Function Display

Displays current function of Soft Key three (right key on the top row of buttons).

13. Folder Display

Displays folder that current clip is in. If blank, clip is not in a folder. If folder appears in brackets (e.g. <2SCENE 2>), the FS-3 PLAY FROM menu is set to FOLDER LIST. See page 21 of this User's Guide for more details.

FRONT PANEL BUTTONS

The FS-3 front panel features nine buttons. The three buttons on the top row are “Soft Keys” which allow different functions to be controlled depending on the mode FS-3 is in. Use the bottom line of the LCD display to identify the current soft key function. The remaining six buttons have a fixed function. Several of them also feature a secondary function that can be accessed by pressing the SHIFT key (usually the right Soft Key).



FS-3 buttons have the following functions:

Soft Key 1 and STOP Key



Stops whatever is the selected mode and returns FS-3 into Pause. A second press puts FS-3 into STOP (standby with splash screen). Splash screen is either a gray screen or first frame of the selected clip depending on the PREVIEW mode (see page 28 for more info.)

Soft Key 2



Dedicated soft key for triggering mode/function that appears immediately above key in the FS-3 LCD display.

Soft Key 3 and SHIFT Key

Dedicated soft key for triggering mode/function that appears immediately above key in the FS-3 LCD display. This key is also commonly used to enter the SHIFT mode. To execute a shift function, press SHIFT and another key at the same time.

Keeper Clip and Scene Marking Keys



FireStore FS-3 features the ability to quickly mark clips during record and playback to a single “Keeper” folder or multiple, prenamed “Scene Marking” folders. It is possible to use the front keypad for Scene Marking or Keeper Marking but it is necessary to first select either Keeper or Scene Marking under FOLDER PREFERENCES in the SETUP menu as it is not possible to use both at once. See page 29 of this User Guide for more information.

If you have selected the KEEP preference, it is possible to mark the current clip by pressing and holding Soft Key (3) followed by Soft Key (2). KEEPER can be marked on the current clip during recording, playback or in stop mode. The KEEPER label and a relational line between the two keys is silk-screened on the FS-3 front panel. It is also possible to mark a clip as a KEEPER using the KEEPER button on one of the optional remote control units. Once a clip has been marked as a KEEPER, an asterisk (*) will appear next to the track number (“X-XXX*”) on the LCD. To add all clips marked as a KEEPER to the Keeper Folder on the disk drive, select UTILITIES -> ORGANIZE FOLD from the FS-3 menu.

If you have selected the SCENE MARK preference, pressing and holding Soft Key (3) followed by Soft Key (2) allows you to mark each clip into particular pre-named folders on disk (up to 10 folders can be prenamed. Default names for the folders are 0 through 9. See page 33 of this User Guide to setup Scene Marking folders). By holding Soft Key (3) down and repeatedly pressing Soft Key (2), it is possible to scroll through the available folders. It is also possible to SCENE MARK clips to folders using the numeric keypad on the optional remote control units. SCENE MARK can be marked on the current clip during recording,

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playback or in stop mode and once selected, the clip will be marked for placement into that particular folder. To add all SCENE MARKED clips to their respective folders on the disk drive, select UTILITIES -> ORGANIZE FOLD from the FS-3 menu .

For more on KEEPER and SCENE MARKING, see page 30 and 33 of this User Guide.

Backward Search Key



Pressing the backward search button multiple times will result in increases in the search speed during playback. This mode is bidirex in forward X times normal search speed. A press of the Back Search button will result in FF speed being slowed down by one step. For instance, if user is in 10X FF speed and presses the Back Search button once, they will now be in 2X FF mode. This applies vice versa for backward search speeds. Speed resolution is as follows: (NTSC, PAL will have slightly different multiples for < 1X):

REVERSE : -30X, -10X, -2X, -1X (reverse play), -1/2X(-15fps), Still.

FORWARD: Still, +1/2X (+15fps), +1X (play), +2X, +10X, +30X

Forward Search Key



Pressing the forward search key multiple times will result in increases in the search speed during playback. This key has the same characteristics and bidirex function as the backward search key listed above.

Standard forward search and reverse search also have a “higher resolution” mode where more speeds are available. By pressing and holding the SHIFT key plus the forward or backward search key, the user has access to a

larger number of playback speed choices. This mode is the same as Standard Forward Search in that it is also bidirex.

REVERSE: -30X, -25X, -18X, -15X, -12X, -10X, -8X, -5X, -4X, -3X, -2X, -1X, -15fps, -10fps, -6fps, -5fps, -3fps, -2fps, -1fps, Still

FORWARD: Still, +1fps, +2fps, +3fps, +5fps, +6fps, +10fps, +15fps, +1X, +2X, +3X, +4X, +5X, +8X, +10X, +12X, +15X, +18X, +25X, +30X.

NOTE: When using the optional FS-3 remote control units, holding down the particular button will not repeat the function as it does on the FS-3 control panel. For repeat sequences, the button must be pressed multiple times.

Play Key



Starts playback of the selected clip. By pressing and holding the SHIFT key plus the play button, FS-3 will immediately go into reverse play mode.

Backward Index Key



Returns to the beginning of the current clip if in playback mode. Two presses in sequence will return to the previous clip during playback. In Stop mode a press will return to the beginning of the previous clip.

Forward Index Key



Skips forward to the next sequential clip for playback.

The forward index and backward index buttons also have a SHIFT mode where users can move one frame forward or one frame backward.

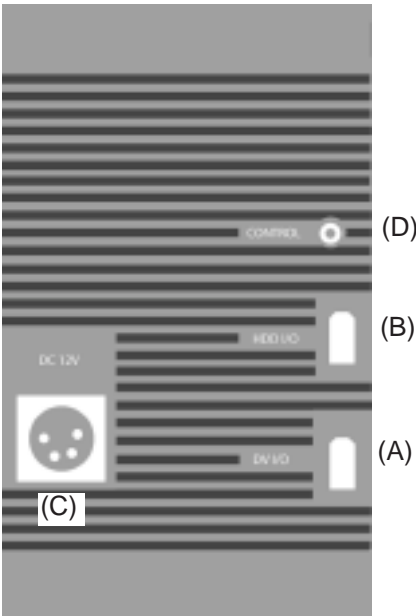
When FS-3 is in PLAY or PAUSE mode and the user presses and holds the SHIFT key plus the forward or backward index keys, it is possible to forward one frame or backward one frame with each press. If in PLAY mode, FS-3 will immediately go into PAUSE mode on the particular frame.

Record Key 

Pressing this button once puts FS-3 into REC-PAUSE mode. A second press starts a recording session. If this button is pressed while a recording is in progress, FS-3 will create a new clip on disk without dropping any frames.

REAR CONNECTOR PANEL

The rear connector panel features a 6-pin FireWire port for DV video I/O (A), a 6-pin FireWire port for connection of external FireWire drives or a computer (B), a 4-pin XLR DC power input (C) and a 3.5 mm control cable input for RS232C, wired remote control or GPI. (D).

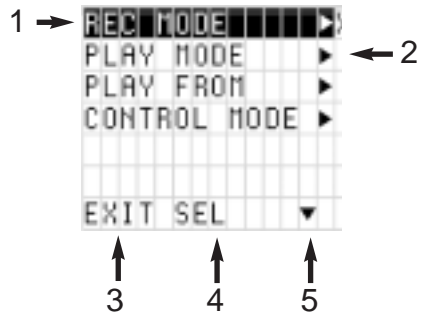


FS-3 MENUS AND FUNCTIONS

FireStore FS-3 features a comprehensive menu system which allows a number of features to be initiated and setup. To enter the FS-3 MAIN MENU, press SOFT KEY (1) while in STOP mode. Available items in the MAIN Menu are:

- REC MODE
- PLAY MODE
- PLAY FROM
- CONTROL MODE
- HDD BYPASS
- REC FORMAT
- SETUP
- UTILITIES

The following MENU SCREEN will appear:



1. Current Menu Item

Indicates the currently highlighted menu item.

2. Sub-Menu Available

Indicates a menu item that has a sub-menu available. By pressing the SEL Soft Key, it is possible to enter the sub-menu.

3. Exit

Pressing EXIT will exit the FS-3 MAIN MENU screen.

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4. Select

Pressing SEL will select the current menu item. If a sub-menu is available, that will open. If a sub-menu is not available, this command simply enables or selects the menu item.

5. Scroll Arrow

This command allows for scrolling through menu items.

RECORD MODE MENU



The FS-3 RECORD MODE MENU allows different record functions to be enabled. User simply selects the mode. Pressing SEL will open the sub menu. Pressing EXIT will exit back to the menu screen. Once a particular mode is selected in the Record Mode menu, the unit will remain in that mode until a different mode is selected.

Available items in the RECORD MENU are:

- NORMAL REC
- RETRO DISK
- RETRO CACHE
- LOOP RECORD
- SNAP
- TIME LAPSE

NOTE: When an inserted or attached HDD is nearly full, in some record sessions, the HDD time remaining may display “001min” remaining. If RECORD is triggered, FS-3 will sometimes display NO SPACE LEFT. It is advised that when a disk drive is close to being full, other disk drives are readily available in order to avoid lost footage.

Normal Record

Standard and default record mode. When REC is triggered, FS-3 begins standard recording. A single press of a STOP trigger will put FS-3 into REC PAUSE mode. A second press puts FS-3 into STOP mode.

Retro Disk Record Mode



RETRO DISK Record Constantly buffers video in a loop to a determined amount of space on the HDD so that when record is triggered, a retro time period can be added to the beginning of any clip.

RETRO DISK has the following characteristic. Pressing a REC TRIGGER when in RETRO DISK mode puts FS-3 into a RETRO DISK state (FS-3’s tally light will flash as if in PAUSE state). FS-3 is actually recording in this state, but until the RECORD TRIGGER is pressed a second time, the video recorded will record over itself in a continuous loop. RETRO DISK always keeps at least the amount of time that is selected by the end user in a series of one minute clips. For instance, if the user sets the RETRO DISK value to 3 minutes, they will always have 3 minutes (made up of three, one (1) minute clips) of video saved to disk. As the recording goes past the 3 minute point, a fourth clip is created. Once that clip reaches one minute, the oldest of the previous 3 clips is deleted. Another fourth clip is then created.

If a user selects a RETRO session that is 60 minutes or greater, instead of one minute clips,

FS-3 creates 9 minute, 13 second clips (2GB clips on disk). The characteristics of RETRO DISK remains the same. The larger file size prevents FS-3 reaching its 999 track limitation for very long RETRO records. Due to the larger file sizes, the maximum amount of drive space available is decreased in order to accommodate the last recording in a session. For instance, if a user has 90 minutes of disk space remaining, after the user sets RETRO record to greater than 60 minutes, the available space changes to 88 minutes of available disk space. If the user sets RETRO time to 88 minutes, the recording will be made up of about nine and a half 9 minute, 13 second clips. There must be space available in this situation in order to record the final clip which eventually will right over clip 1. This ensures that at any given time, at least 88 minutes of video exists after a complete RETRO DISK record loop.

NOTE: FS-3 must always have at least one minute of disk space (under 60 minutes) or 9 minutes, 13 seconds of disk space (when RETRO DISK value is set to greater than 60 minutes) remaining in addition to the RETRO DISK value that has been set, in order to function correctly. For instance, it is not possible to set a RETRO DISK value of one minute if only one minute of disk space remains.

Once RETRO DISK time is set, the user can exit the Menus and return to the Main Screen. An "L" will now appear next to the record symbol on FS-3's display. Pressing the REC trigger once will put FS-3 immediately into RETRO DISK RECORD. Clips are being recorded to disk for X number of minutes in one minute increments (each as a separate track). The tally light will flash (as if the unit is in pause). When the REC trigger is pressed, FS-3 will kick out of RETRO DISK mode and go into standard record. All one minute tracks in the set loop sequence will appear and be saved as their own tracks on disk (e.g. 1-001, 1-002, 1-003 etc.) except for the recording that was in progress, which takes on the characteristics of a standard track. At this stage, FS-3 is essentially

in standard record mode (the "L" on the display will disappear). No frames will be lost across tracks during the record session. Once paused, the unit will return to RETRO DISK record mode again (the "L" will reappear in the LCD and viewfinder) for further RETRO recordings or until it is disabled in the RETRO DISK Menu.

RETRO DISK can be used in LOCAL and SYNCRO SLAVE RECORD control modes.

WARNING: Make sure FS-3 is in STOP mode before removing the disk drive from the system. Do not attempt to remove when FS-3 is in REC or REC-PAUSE mode.

Retro Cache Record Mode



RETRO CACHE Record constantly buffers video in a loop to a 10 second data buffer to cache video so that when record is triggered, a retro time period can be added to the beginning of any clip.

NOTE: Retro cache mode utilizes the same memory data buffer as used for shock protection on FS-3. If Retro Cache mode is not being used, all the FS-3 cache is available for shock protection. If Retro cache is ON, the shock buffer time will be reduced by the amount of cache time that is selected and therefore performance may vary.

RETRO CACHE has the following characteristic. Pressing a REC TRIGGER when in RETRO CACHE mode puts FS-3 into a RETRO CACHE state (the TALLY light on FS-

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3 will flash as if in PAUSE state). FS-3 is actually recording in this state, but until the RECORD TRIGGER is pressed a second time, the video recorded will record over itself in a continuous loop. It is much the same as RETRO DISK recording in theory except that it utilizes a data buffer that is separate to the

disk drive to cache video. RETRO CACHE is also accurate down to the frame instead of the 1 minute clips used in RETRO DISK. Once a RETRO CACHE value is set, pressing the REC trigger once will put FS-3 immediately into RETRO CACHE Record. A "C" will now appear next to the record symbol on FS-3's display. Video is being recorded to the FS-3 cache. The tally light will flash (as if the unit is in pause). When the REC trigger is pressed, FS-3 will kick out of RETRO CACHE record mode and go into standard record (the "C" on the display will disappear). Any clip that is recorded in this mode will have the contents of the cache added to the beginning of the clip. Once paused, the unit will return to RETRO CACHE record mode again (the "C" will reappear in the LCD and viewfinder) for further RETRO CACHE recordings or until it is disabled in the RETRO CACHE REC Menu.

RETRO CACHE RECORD can be used in LOCAL and SYNCRO SLAVE RECORD control modes.

WARNING: Make sure FS-3 is in STOP mode before removing the disk drive from the system. Do not attempt to remove when FS-3 is in REC or REC-PAUSE mode.

Loop Record

The LOOP Record feature allows video to be recorded to available disk space on the connected disk drive(s) in an endless loop. To use LOOP RECORD, simply select in the FS-3 RECORD MENU. Once highlighted, an "O" will appear on the top line of the FS-3 LCD next to the PLAY/RECORD STATUS SYMBOL. When record is triggered, FS-3 will begin recording on available disk drive space.

Like the RETRO DISK feature, when FS-3 is in LOOP RECORD mode, it records sequential one minute clips to the disk drive. When only one minute remains on the disk drive, FS-3 loops back to record over the oldest one minute clip and so on. It is possible to PAUSE FS-3 in this mode and then continue a LOOP RECORD by starting record once again. FS-3 will remain in LOOP RECORD mode until a recording is stopped. Once stopped, the files on disk will not be erased if a new LOOP RECORD session is begun.

If the available time on disk is 60 minutes or greater, FS-3 will record sequential 9 minute, 13 second long clips instead of one minute clips. The larger file size prevents FS-3 from reaching its 999 track limitation for very long LOOP RECORDS.

Snap

When SNAP is selected and REC is triggered, a single frame is grabbed. SNAP can only be used in LOCAL control mode.

If SNAP is the RECORD MODE when power is cut to the unit or it is turned off, on re-boot, FS-3 will be in NORMAL REC mode.

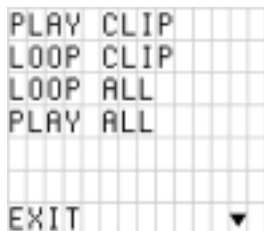
Time Lapse



It is possible to select a time lapse interval of up to twenty-four hours. Interval is the period of time between FS-3's capture of a single frame of video (a value of 00:00:01:00 means one frame will be recorded every second). REC INTERVAL is set by the user pressing the up and

down buttons. Time is selectable in seconds (up to 59), then minutes up to 59. Buttons can be released at any time to slow advance. EXIT will exit back to the menu screen.

PLAY MODE MENU



The FS-3 PLAY MODE MENU allows different playback functions to be enabled. User simply selects the mode. Pressing EXIT will exit back to the menu screen. Once a particular mode is selected in the Play Mode menu, the unit will remain in that mode until a different mode is selected.

Available items in the PLAY MODE MENU are:

- PLAY CLIP
- LOOP CLIP
- LOOP ALL
- PLAY ALL

Play Clip

In this mode, FS-3 will play the selected clip from start to finish when the PLAY button is pressed. At the end of the particular clip, FS-3 will pause.

Loop Clip

In this mode, FS-3 will play the selected clip from start to finish. Immediately after completing the clip, FS-3 will begin playing the clip again without a pause. It will stay in this state until stopped.

Loop All

In this mode, FS-3 will play the entire contents of the disk (all clips from the selected clips) in order from start to finish. At the end of the last clip, FS-3 will begin to play from the beginning of the first clip again without a pause. It will stay in this state until stopped.

Play All

In this mode, FS-3 will play the entire contents of the disk (all clips) in order from start to finish. At the end of the last clip, FS-3 will pause.

NOTE: Play Mode operation varies depending on whether Track List or Folder List is selected in the PLAY FROM menu. When Track List is selected, clips are played back based on the entire disk drive. When Folder List is selected, clips are only played from the selected folder.”

PLAY FROM MENU



The FS-3 PLAY FROM MENU allows the user to select where clips will be played back from. There are two options available:

Track List

When this setting is selected, all clips on attached disk drives will be played back sequentially based on the order of their base file name regardless of whether they have been marked in the KEEPER or SCENE MARKING folders. If Track List is selected, all PLAY MODES relate to all clips on the connected disk drives.

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Folder List

When this setting is selected, it is possible to play back clips only from a selected folder. Select a particular folder to play clips from. Highlighted folder is the selected folder after exit. Once set and when PLAY is pressed, only clips within that particular folder will playback. If Folder List is selected, all PLAY MODES relate to clips in the selected folder only.

If the FS-3 PLAY MENU is set to "TRACKLIST" the name of the SCENE MARKED folder will appear without brackets on the LCD display (e.g. 2 SCENE 2). If the PLAY FROM menu is set to "FOLDERS", the name of the SCENE MARKED folder will appear in brackets on the LCD display (e.g. 2 <SCENE 2>).

CONTROL MODE MENU



The FS-3 CONTROL MODE MENU allows different control options to be enabled. User simply selects the mode. Pressing EXIT will exit back to the menu screen. Once a particular mode is selected in the Control Mode menu, the unit will remain in that mode until a different mode is selected.

Available items in the CONTROL MODE MENU are:

LOCAL
AV/C
SYNCRO SLAVE

Local

In this mode, FS-3 is controlled via the front panel buttons only. The camcorder tape transport and FS-3 have independent control.

AV/C

utilized in PLAYBACK and RECORD situations where FS-3 is controlled by an external FireWire device (such as a DV NLE system), connected to the "DV I/O port" on FS-3. For example, you may like to record the output of your NLE's timeline to FS-3.

NOTE: AV/C is NOT for use in FS-3 RECORD MODES.

Syncro Slaved

In SYNCRO SLAVED mode, the camcorder and FS-3 share the same REC trigger and FS-3 is slaved to the camcorder. Once set and the user exits the CONTROL MENU, they will return to the default splash screen. FS-3 also immediately enters REC PAUSE mode and a "Y" appears next to the record symbol on the LCD. All triggers of REC and REC PAUSE are controlled by the camcorder exclusively. Every time the camcorder REC button is pressed, FS-3 goes into the particular RECORD MODE that is selected. When pressed a second time, FS-3 goes into REC PAUSE. Another press of the REC button on the camcorder again starts the particular RECORD MODE that is selected. At this point, a new track is created on disk. Timecode generated by the camcorder is recorded to the file when FS-3 is set to EXT TC mode.

When used with RETRO DISK or RETRO CACHE modes, as soon as SYNCRO SLAVE is set, the camcorder begins recording to disk. A press of the REC trigger on the camcorder kicks FS-3 out of RETRO DISK or RETRO CACHE and goes into standard REC. When the camcorder is triggered back into REC PAUSE mode, FS-3 once again goes into RETRO DISK or RECORD CACHE mode again.

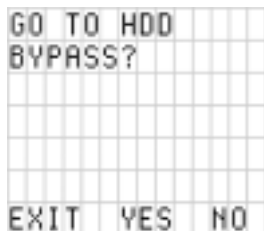
The FS-3 buttons (other than MENU, DISP and SHFT) are locked out when in this mode, as is wired or infrared remote control units. If in VTR mode on the camcorder, all keys work. The user is only able to exit SYNCRO SLAVE by entering the CONTROL MENU which they can do directly by pressing the MENU button when on the FS-3 default splash screen. If the camcorder is set to VTR mode, FS-3's control panel becomes active in order to allow playback.

HDD BYPASS

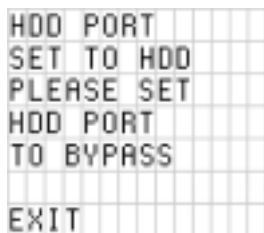
HDD Bypass mode allows the connected FireWire HDD to be mounted/dismounted to a computer without removing. In this mode, the computer connects to the HDD I/O port on the FS-3 Rear Connector Panel.

WARNING: Do not connect FS-3 to a computer until the HDD port in the set up menu has been set to Bypass.

When HDD Bypass is selected, the following will display on the FS-3 LCD:

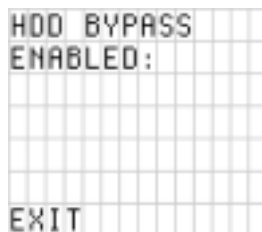


If this screen does not appear, the FS-3 HDD I/O port is set for use with external drives.



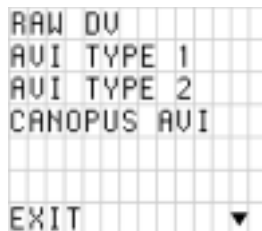
To set the HDD Port, go to the Main Menu and select SETUP -> HDD PORT. Once set, it will be possible to set FS-3 to HDD Bypass mode.

Once in HDD Bypass mode, the following LCD display will appear:



To Exit this mode, simply press the EXIT key. Be sure to properly dismount the FireWire drive from the computer system first before exiting HDD Bypass mode on FS-3.

RECORD FORMAT MENU



The RECORD FORMAT menu allows selection of particular DTE Technology native NLE file formats prior to recording. All files are in the DV25 standard.

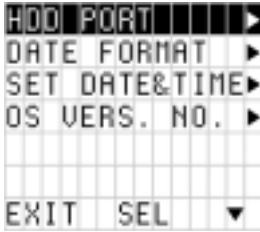
Available items in the RECORD FORMAT MENU are:

- RAW DV
- AVI TYPE 1
- AVI TYPE 2
- CANOPUS AVI
- MATROX AVI
- QUICKTIME
- AVID OMF

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User simply selects the format. Highlighted format is current format after exit. Pressing EXIT will exit back to the menu screen. Selected format will stay set until user selects a different format (even if the power is cycled).

SETUP MENU

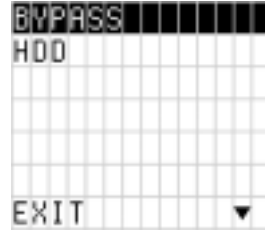


The SETUP MENU allows various functions of FS-3 to be set. User simply selects the Setup Item. Pressing SEL will open the sub menu. Pressing EXIT will exit back to the menu screen. Unless mentioned, the particular setup menu will stay set until user selects a different setting (even if the power is cycled).

Available items in the SETUP MENU are:

- HDD PORT
- SET DATE&TIME
- OS VERSION NO.
- OS UPGRADE
- TC MODE
- TC SET
- IR
- GPI
- BACK LIGHT
- CLIP PREVIEW
- AUDIO CORRECT
- FOLDER PREF

HDD Port

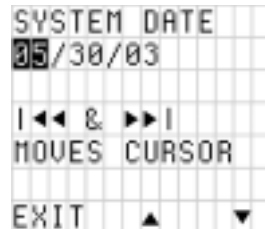


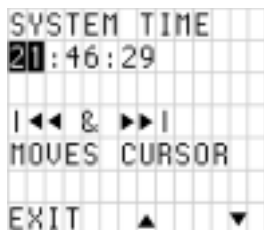
The HDD Port setting allows the user to assign a function to the FS-3 “HDD I/O” port. BYPASS mode is for making the internal disk drive available to an external device (such as a computer). HDD Mode is used when the “HDD I/O” port is used for connecting external FireWire disk drives. Pressing EXIT will exit back to the menu screen.

Set Date and Time



Allows for setting date and time for file naming purposes. Date and Time are set in different menus. Pressing the SEL button will open the sub menus.





Scroll from value to value using the FORWARD and BACK INDEX Buttons. Press DOWN and UP arrow to scroll through digits in value. Pressing EXIT will exit back to the menu screen. User simply selects the Menu Item. Pressing SEL will open the sub menu. Pressing EXIT will exit back to the menu screen.

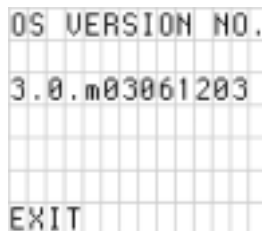
The Date and time form the basis of the FS-3 file naming structure for use of clips on a computer.

On FS-3, files are identified by TRACK and VOLUME (disk drive) number on the LCD. For instance, a file on the FS-3 LCD identified as 1-043 is clip number 43 on Volume (disk) 1.

On a computer, files are identified by their base file name made up of DATE and TIME. For instance, a clip named 20030615-210943-01.mov is a clip that began recording at 9:09:43PM on June 15th, 2003.

NOTE: DATE/TIME is used when creating File name only. FS-3 does not record this information into the stream. FS-3 records DATE/TIME which is in the DV stream which is sent from the camcorder.

Operating System Version No.



Displays the current system software version.

Operating System Upgrade

To upgrade system software, the user must download a new .bin file to a FireWire drive on their computer. The latest version of FS-3 software can be downloaded from <http://www.focusinfo.com/support>.

To install new OS software to FS-3, do the following:

- 1) Download software from the Focus Website to your local computer.
- 2) Unzip file using WinZip (Windows) or Stuffit (Macintosh) on a computer system with a FireWire (IEEE-1394) connection.
- 3) Rename the unzipped file called "XXXXX.bin" to "fs3.bin".
- 4) Connect a FireWire disk drive that has been used with FS-3 to the computer and copy over the file "fs3.bin".
- 5) Disconnect FireWire drive from computer and connect to FS-3. Power on FS-3 as per normal.
- 6) Enter the FS-3 menu and select "SETUP". From the SETUP menu, select "OS UPGRADE".

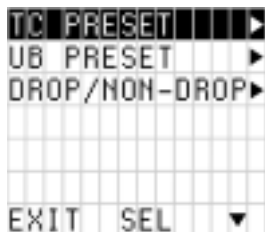
REGEN Mode - After a disk is mounted (at startup, upon manual connect) and after the track list has been constructed, FS-3 looks at the last track and looks at the timecode number of the last frame in that track. FS-3 stores that number for use as the TC value (+ 1) for the first frame of the next recording.

If the drive is empty, FS-3 uses the value (+ 1) stored in memory.

FREE RUN Mode - When the user enables FREE RUN mode, FS-3 begins counting from the value stored. If the user uses the TC PRESET function, when the number is entered and the TC PRESET menu is exited, FS-3 begins counting.

NOTE: When the FS-3 timecode mode is set to EXT TC and the camcorder time code mode is set to PRST/REC or REGEN, it is not possible to record timecode continuously when recording to disk only. Set the FS-3 timecode mode to REGEN, REC RUN or FREE RUN (not EXT TC) when recording to disk only.

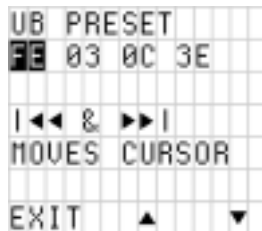
Timecode, UserBit and Drop/Non-Drop Preset



This menu allows the user to set timecode and user bit values for various modes. It also allows selection of drop or non-drop frame (NTSC only) settings. User simply selects the Menu Item. Pressing SEL will open the sub menu. Pressing EXIT will exit back to the menu screen.



Once a timecode value is set and FS-3 is set to REC RUN or FREE RUN timecode settings, the preset value will be the starting point for timecode. Use the forward and back index buttons to move from value selection to value selection. Press the up and down arrows to set values.



Allows the user to set a user bit value. Use the forward and back index buttons to move from value selection to value selection. Press the up and down arrows to set values.



For DROP and NON-DROP, user simply selects the mode. Highlighted mode is current mode after exit. Pressing EXIT will exit back to the menu screen. This item not applicable for PAL use. On the FS-3 display, DROP will be identified by a (:) symbol and NON-DROP by a (;) symbol.

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Infrared Sensor Settings



This menu allows the user to ENABLE or DISABLE the IR sensor on FS-3. User simply selects the Menu Item. Highlighted mode is current mode after exit. Pressing EXIT will exit back to the menu screen.

GPI Settings

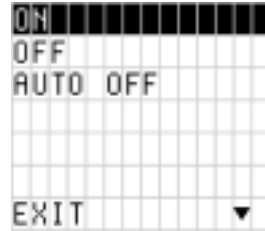


This menu allows the user to change the setting of the GPI port. User simply selects the Mode. Highlighted mode is current mode after exit. Pressing EXIT will exit back to the menu screen.

DISABLE allows user to connect the supplied 3.5mm to DB9 cable to the GPI port and control FS-3 via RS232C from an external device.

The remaining three items allow functions to occur from a simple contact closure. Modes are PAUSE/UNPAUSE (allows control of pause and un-pause during a record or playback session), INDEX (NEW FILE) (allows a new file to be created during a record session without losing any frames) and REC SNAPSHOT (allows a single frame of video to be recorded to a file. Each sequential trigger in this mode will add another frame to the same file until stopped).

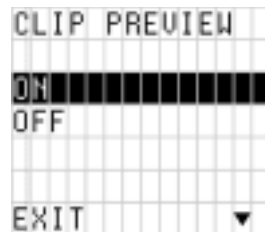
LCD Backlight Settings



This menu allows the user to enable or disable the FS-3 LCD back-light. Highlighted state is current after exit. Pressing EXIT will exit back to the menu screen.

The ON setting will keep the back-light on permanently while the OFF setting will keep the back-light off permanently. AUTO OFF will turn off the back light after one minute. Pressing any keypad button on FS-3 will turn the back-light back on in AUTO OFF state. This setting is advisable in high temperature environments and also to reduce power consumption.

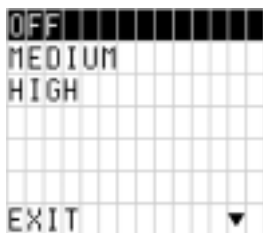
Clip Preview Settings



This menu allows the user to select CLIP PREVIEW ON or OFF. When CLIP PREVIEW is ON, the camcorder is in VTR mode and the user scrolls from one clip to the next on FS-3 using the buttons, the first frame of each clip will be generated and showed via DV output after one second if the user pauses on that clip.

User simply selects the Mode. Highlighted mode is current mode after exit. Pressing EXIT will exit back to the menu screen.

Audio Correction Settings



This menu allows the user to change the AUDIO CORRECTION setting on FS-3. User simply selects the Mode. Pressing EXIT will exit back to the menu screen.

AUDIO CORRECTION modes is an advanced feature of FS-3. It is recommended that the customer uses the factory default settings for most operations (Factory default is MEDIUM). Audio Correction Mode allows the user to alter the performance of the audio error corrector while recording. It is useful when recording to FS-3 from tapes with lots of dropouts. Error correction will only effect AVI 2, Canopus AVI, Matrox AVI, QuickTime and AVID OMF. It does not effect RawDV or AVI 1. The modes are:

OFF - No audio correction.

MEDIUM (default) - For “normal” clean tape played back on camcorder or other VTR with clean heads. Experiences occasional very short audio mutes.

HIGH - For cases where there are visible picture disturbances and likely long audio dropouts (1/2 sec and up).

Folder Pref

The FS-3 KEEPER PREFERENCE folder allows use of a single KEEPER folder or multiple SCENE MARKING folders. The highlighted preference is selected on EXIT. See SCENE MARKING section on page 33 of this User Guide for more details.



UTILITIES MENU



The UTILITIES MENU allows various utility functions of FS-3 to be set. User simply selects the Utilities Item. Pressing SEL will open the sub menu. Pressing EXIT will exit back to the menu screen.

Available items in the UTILITIES MENU are:

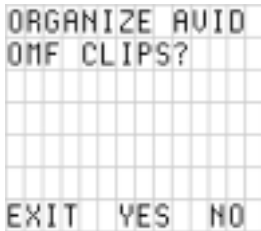
- ORGANIZE FOLD
- ORGANIZE OMF
- DELETE CLIP
- FORMAT
- PARTITION
- REPAIR
- FILE NAME
- FACTORY RESET

Organize Folders



Places all files that were identified as a KEEPER or were SCENE MARKED during recording into a folder marked KEEPER or the prenamed SCENE MARKING folders on the disk drive. These folders can be imported directly into most DV NLE bins.

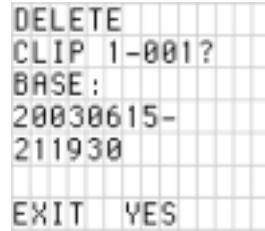
Organize OMF



When files are recorded in the AVID OMF file format, this command automatically takes all the OMF and AIF audio files at the end of a recording session and places them into a folder on the disk drive named “OMFI MediaFiles”. When the disk is connected to a computer, this folder is recognized by Avid’s Media Tool feature enabling direct import of files into the Avid timeline.

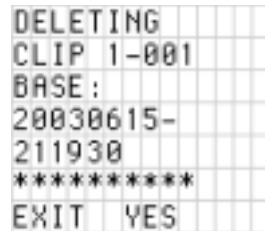
NOTE: If you have selected files as a KEEPER or they have been SCENE MARKED, it is not possible to use this feature and keep files in their selected folders. If you would like to use clips in KEEPER or SCENE MARKED folders in Avid, manually create the “OMFI MediaFiles” folder when your disk drive is on your computer and drag desired clips into this folder.

Delete Clip



With this function, it is possible to delete the selected clip. In the DELETE CLIP X-XXX screen, user can select between clips by pressing the forward and back index buttons. Pressing YES will begin the delete process. Pressing EXIT will exit back to the menu screen.

NOTE: FOCUS recommends not deleting clips frequently. It may cause fragmentation.



Once a clip has been deleted, the FS-3 display re-organizes the clip number sequence. For instance, if there are three clips on disk (1-001, 1-002, 1-003) and the user deletes clip 1-002, after delete is complete, clip 1-003 will become clip 1-002. Base file names are not affected however.

Format Disk

With this function, it is possible for the user to format a disk. It is recommended that this is done after each record session to prevent fragmentation and other problems with the disk drive.

WARNING: FORMAT ERASES ALL DATA ON THE DISK DRIVE!

```

FORMAT DISK
VOLUME 1?

EXIT YES NO
    
```

To exit from format, press either NO or EXIT.
To continue with format, press the YES key.

```

FORMAT WILL
ERASE ALL DATA
CONTINUE
FORMAT VOL 1?

EXIT YES NO
    
```

To exit from the warning screen, press either NO or EXIT. To begin the format, press the YES key.

```

FORMATTING
VOLUME 1

*****
    
```

FireStore FS-3 utilizes a FAT32 format type. If you are using a non-FAT32 formatted drive, see the section on Partitioning a volume. Once complete, the disk drive is ready for use with FS-3. It is advised that the drive be formatted before a new record session is begun.

After a format is complete, ten file folders are added to the disk drive (numbered 0-9). These folders are utilized in the SCENE MARKING feature (see page 33 of this User's Guide for details). Also added to the disk is a LOG folder, a DESKTOP folder and two additional files called Desktop DB and Desktop DF. Do not delete these files as they are required for FireStore operation.

Partition Volume

When an unknown or blank volume type (HDD) is connected to FS-3, the Partition process puts a FAT32 format onto the drive. It will erase any previous partition and data.

```

PARTITION WILL
ERASE ALL DATA
CONTINUE
PARTITION VOL?

EXIT YES NO
    
```

To exit from partition, press either NO or EXIT. To continue with partition, press the YES key.

WARNING: PARTITION ERASES ALL DATA ON THE DISK DRIVE!

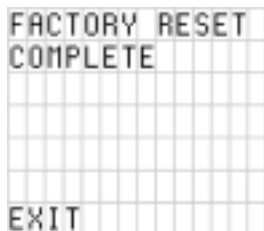
```

PARTITIONING
VOLUME

*****
    
```

Once complete, the disk drive is ready for use with FS-3.

The following screen will display when complete:



After factory reset is complete, please restart FS-3

Factory Default States Are as Follows:

Display:

- COUNTER

Rec Mode:

- DEFAULT REC MODE: NORMAL
- RETRO DISK – RETRO VALUE -> 000min
- RETRO CACHE – CACHE ->00 sec
- TIME LAPSE -> 00:00:00:00

Play Mode:

- DEFAULT PLAY MODE: PLAY CLIP

Play From:

- DEFAULT PLAY FROM MODE:
TRACK LIST

Control Mode:

- DEFAULT CONTROL MODE: LOCAL

Rec Format:

- DEFAULT REC FORMAT: AVI TYPE 2

Setup:

- HDD PORT -> HDD
- SET DATE&TIME :
- DATE: 07/24/03
- TIME: 12:00:00
- OS VERSION NO. -> VARIABLE
- TC MODE -> EXT TC
- TC SET:
- TC PRESET -> 00:00:00:00
- UB PRESET -> 00 00 00 00
- DROP/NON-DROP -> NON-DROP
- IR -> ENABLE

- GPI -> DISABLE
- BACKLIGHT -> ON
- CLIP PREVIEW -> PREVIEW ON
- AUDIO CORRECTION -> MEDIUM
- FOLDER PREF -> SCENE MARK

USING SCENE MARKING

The FireStore FS-3 SCENE MARKING feature allows clips to be marked for placement in particular folders during recording, playback or stop mode. When a drive is formatted using FireStore, ten folders will be created numbered 0 through 9. After format on FireStore, it is possible to connect the HDD to a computer and give each of these folders a custom name (if you need help mounting your FireWire HDD to your computer system, see section titled “Getting FireStore Recorded Clips onto a Computer” on page 34 of this User’s Guide). To rename each folder, simply click on the folder name until it is highlighted, then type in the desired name of the folder.

NOTE: Folder names cannot exceed eleven characters.

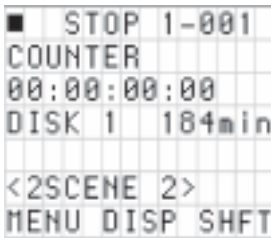


Folders will be ordered on FireStore in numerical followed by alphabetical order. For instance, if folders are named “Scene 1”, “Scene 2” and “Auditions”, they will appear on FireStore as “1 Auditions”, “2 Scene 1” and “2 Scene 2”. The folder number is added in front of the folder name on the FS-3 LCD display for easy identification when using the

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optional remote control commander keypads. If you would like to create a custom order to Folders, it is recommended that you change the name to change the numerical/alphabetical order.

To use SCENE MARKING, it is necessary to first enable the SCENE MARK setting under FOLDER PREFs in the SETUP menu. Once you have selected the SCENE MARK preference, pressing and holding Soft Key (3) followed by Soft Key (2) allows you to mark each clip into the selected, prenamed folder on disk. By holding Soft Key (3) down and repeatedly pressing Soft Key (2), it is possible to scroll through the available folders. Each SCENE MARK FOLDER is shown on the FS-3 LCD display.



If the FS-3 PLAY MENU is set to "TRACKLIST" the name of the SCENE MARKED folder will appear without brackets on the LCD display (e.g. 2 SCENE 2). If the PLAY FROM menu is set to "FOLDERS", the name of the SCENE MARKED folder will appear in brackets on the LCD display (e.g. 2 <SCENE 2>).

It is also possible to SCENE MARK clips to folders using the numeric keypad on the optional remote control units (see page 38 of this User Guide for more information). To add all SCENE MARKED clips to their respective folders on the disk drive, select UTILITIES -> ORGANIZE FOLD from the FS-3 menu. Once complete, an additional file is added to the disk named "grade" and files are moved to the selected folder for easy

access on an NLE system. Do not delete the file named "grade" from the disk if you intend to use the disk on FireStore again.

GETTING FIRESTORE RECORDED CLIPS ONTO A COMPUTER SYSTEM

Once you have recorded clips to your FireWire disk drive using FireStore, it is possible to use those clips in most computer based DV NLE systems.

Traditionally, in order to get footage into your NLE system, it was necessary to capture or digitize that footage utilizing a video capture card. Using FireStore FS-3 recorded clips, it is possible to skip this capture stage by simply connecting the FireWire disk drive to your computer via an OHCI compliant IEEE-1394 (FireWire) PCI card or connection. FireWire disk drives that were used with FireStore FS-3 can be connected to any computer system that will read a FAT 32 volume. This includes Windows 98SE, Windows ME, Windows 2000, Windows XP and Mac OS9 and OS10. FAT32 volumes will not work with Windows NT and older Macintosh based operating systems. Check the FOCUS Enhancements' website (www.FOCUSinfo.com) for more information.

In order for you to use FireStore FS-3 recorded FireWire disk drives on a computer, you must have an active IEEE-1394 connection on your computer. You also must have loaded any required FireWire disk drive drivers onto your computer system (Consult your FireWire disk drive documentation for more information).

Simply connect your FireWire disk drive to your computer system utilizing a standard 6-pin to 6-pin FireWire cable and connect power to the drive if necessary (some FireWire disk drives receive power from the computer's FireWire connection. Consult your FireWire disk drive documentation for more information).

Mounting FireWire Disk Drives to Windows XP, 2000, 98SE and ME Computer Systems

On a Windows based computer system, simply double click the My Computer icon on the top left hand corner of the desktop. You will see the following window:



Locate your FireWire disk drive. This will probably be labeled (E:), (F:), (G:) etc. (drive C: is usually your computer’s main disk drive). Once located, double click on the FireWire disk drive. (If you have trouble locating the FireWire disk drive, right mouse click each drive and select Properties from the menu. Click the Hardware tab which will list the drive type). Once opened, you should see the following window:



The FireWire disk drive contains several different files. Clips can appear as RawDV (.dv), AVI Type 1 (YYYYMMDD-HHMMSSa01), AVI Type 2 (YYYYMMDD-HHMMSSb01), Canopus AVI (YYYYMMDD-HHMMSSb01), Matrox AVI (YYYYMMDD-HHMMSSm01) with a separate .wav audio file per track), QuickTime (.mov) and Avid OMF (.omf with two separate .aif audio files per track.).The FAT32 file system has a limitation where any particular file cannot exceed 2GB in size. This equates to roughly 9 minutes of recording time. When clips are being recorded to FireStore that exceed 9 minutes in length, FireStore automatically creates a new file without dropping any frames. The two clips will have the same primary file name, however, the last tow digits will be different. The first 2GB part of the clip will be labeled with “-01” after the primary file name. The second 2GB segment will be labeled with a “-02”. Additional 2GB segments will be labeled with a “-0X” number.

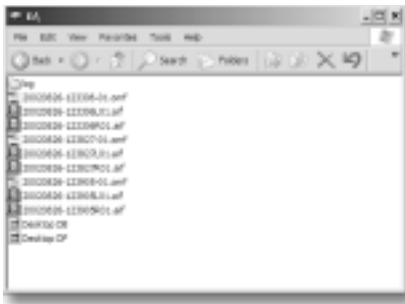
With most NLE systems on a Windows computer, it is possible to utilize clips within the timeline simply by selecting the clips on the source volume (in this case, the connected FireWire disk drive) and importing them directly into the NLE’s bin. Clips can then be immediately used in the NLE’s timeline. With FireWire disk drives such as the FireStore FSHDD-1, the drive itself is fast enough to directly stream the clips to the NLE eliminating the need to copy or transfer the clips before use.

When utilizing the Avid OMF file format, it is necessary to follow the following steps to import clips.

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Using FireStore FS-3 recorded Avid OMF clips on Avid NLE Systems

The Avid DV OMF file format was developed for use with Avid Xpress DV version 3.0 or latter on Windows 2000, Windows XP or Mac OS10. FireStore OMF clips are also compatible with certain NewsCutter, Xpress Pro and Media Composer systems. Check the Focus Website for an up to date list. The Avid DV OMF file format creates three files simultaneously; an OMF video file and two separate AIF audio files. On the computer's desktop, the files will look like this...



On the FireStore FS-3, the video file (OMF) and the audio files (AIF) appear as one track. If you delete an Avid DV OMF file, FireStore will delete the audio and video portions at the same time.

In order to use the FireStore FS-3 recorded Avid DV OMF files on your Avid system from the external FireWire drive, you must do the following...

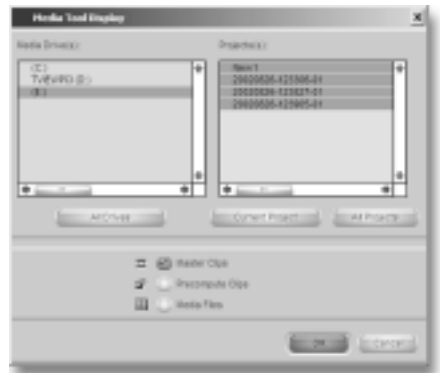
1. Locate the external FireWire drive on your computer. (If you have trouble, you can locate the name of the external drive by selecting *My Computer* on a Windows system. On a Mac, the FireWire drive should appear on the desktop).

2. Open the FireWire drive when you have found it and create a new folder named "OMFI MediaFiles". To do this on Windows,

select *File -> New -> Folder* from the pull down menu. On Mac, select *File -> New Folder*. It is important that "OMFI MediaFiles" is typed correctly in order for Avid to see the disk drive. Drag all the OMF and AIF files into the new folder (do not drag in the files titled Desktop DB or Desktop DF).

NOTE: if you are using the ORGANIZE OMF function on FS-3 prior to using the disk on a computer, step 2 is not necessary. If you have selected files as a KEEPER or they have been SCENE MARKED, It is not possible to use this feature and keep files in their selected folders. If you would like to use clips in KEEPER or SCENE MARKED folders in Avid, manually create the "OMFI MediaFiles" folder when your disk drive is on your computer and drag desired clips into this folder.

3. Launch Avid. Once you have opened the desired project or created a new project, select *Tools -> MediaTool*. The following window will appear:



4. Locate and select the external FireWire drive under Media Drive(s). (NOTE: If the drive does not appear, check that you have created the OMF MediaFiles folder correctly with proper case and spacing. Also, check to see that the drive is properly connected and recognized by the computer).

Under Project(s), select *All Projects* (This will highlight all items in the Project(s) window). Ensure *Master Clips* is checked then press OK. The following Media Tools Window will appear:



5. Create a new bin (select *File -> New Bin*) or open an existing bin in Avid. Once opened, select all items in the Media Tools window (select *Edit-> Select All*). Drag the contents of the Media Tools Window into the bin. It is now possible to use these clips in the Avid timeline.

Dismounting FireWire Disk Drives from Windows XP, 2000, 98SE and ME Computer Systems

Once you have completed working with your disk drive on a Windows XP, Windows 2000, Windows 98SE or Windows ME computer system, you must first dismount the drive before unplugging it. To do this, simply click on the Stop Device icon at the bottom right side of the Windows task bar. See Below:

The Windows
"STOP
DEVICE"
Icon



Once clicked, your computer system will prompt you to "STOP" the connected FireWire disk drive. This will begin the dismount process. Select the message by clicking on it. The computer will now dismount the disk drive and notify you when it is safe to remove the volume.

Mounting FireWire Disk Drives to Macintosh Computer Systems

Note: Even if your FireWire disk drive was bought for use on a Macintosh, you **MUST** first partition and format the drive as a FAT32 volume on FireStore (see page 30) for it to work.

On a Macintosh, start your computer and simply connect your FireWire disk drive to the computer utilizing a standard 6-pin to 6-pin FireWire cable. Consult your FireWire disk drive documentation for more information. Ensure the required FireWire disk drive drivers have also been loaded onto your computer system (consult your FireWire disk drive's documentation for more information).

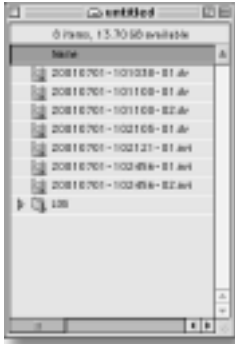
When mounted, your FireWire disk drive should appear on the computer's desktop:



The FireStore formatted disk drive will appear as a FAT32 volume and hence have a PC label. This is not always the case on OS10 however.

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Once you have located your FireWire disk drive on the desktop, double click the disk icon to open it up. Once opened, you will see the following:



Dismounting FireWire Disk Drives from Macintosh Computer Systems

Once you have completed working with your disk drive on a Macintosh computer system, you must first dismount the drive before unplugging it. To do this, simply select the disk drive on the computer's desktop. It will be marked with a PC symbol. Once selected, drag the drive into the trash. This will then dismount the particular disk drive. See Below:



FS-3 REMOTE CONTROL COMMANDERS

Two remote control commanders are optionally available for your FS-3. One is an infrared commander made for use with the infrared remote sensor on the FS-3 front panel and the other features a 3.5mm, 15ft. cable for use when infrared is not an option.

Before using your infrared remote commander, ensure you have batteries installed in the unit (2 x AAA) and that the IR sensor is enabled (see page 28 for details).

Before using the wired remote control commander, ensure you have securely inserted the 3.5mm mini jack to the CONTROL port on the FS-3 rear connector panel. You will also require batteries to use this unit (2 x AAA).

The FS-3 wired and infrared remote commanders have the same functionality. Buttons have the same functionality as the similar FS-3 front panel buttons except where noted. Remote buttons do not feature a hold to repeat function like the front panel. Multiple triggers must be repeatedly pressed. They both feature the following keys

The FS-3 wired and infrared remote commanders have the same functionality. They both feature the following keys

- STOP
- RECORD
- BACKWARD SEARCH
- FORWARD SEARCH
- PLAY
- BACK INDEX
- FORWARD INDEX

KEEPER -this is the same as the KEEPER function on the FS-3 front panel

NUMERIC KEYPAD (0-9): when using the SCENE MARKING feature, use these keys to mark clips to folders 0-9 (these may be prenamed folders - see page 33 for details) during record, playback or stop modes.



*Wired Remote
Commander
Keypad Layout*



*Infrared Remote
Commander
Keypad Layout*

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TECHNICAL SPECIFICATIONS

Input/Outputs

- DV Video I/O - 25Mb/s
(1 x 6pin IEEE- 1394a)
- External HDD I/O - up to 400Mb/s
(1 x 6pin IEEE-1394a)
- Slot Internal HDD I/O - up to 400Mb/s
(1 x 6pin IEEE-1394a)
- GPI & RS232C Control
(1 x 3.5mm mini jack)

Power

- Battery/Camera Plate Contacts
- 4-pin XLR DC input
- 10V to 17V, 7.5W

Physical Specification

- 2.5lbs (1.1kg) w/ FSHDD-1 Disk Drive
- 4 1/8" x 3 1/2" x 6 1/4"
(105mm x 89mm x 159mm)

Audio/Video/Timecode Specification

- 25 Mb/s, 8-bit 4:1:1 (NTSC-DV) or 4:2:0 (PAL-DV) video (model dependent)
- SMPTE or DV embedded timecode (Drop or Non-Drop for NTSC-DV)
- 2-ch, 16-bit (48kHz) or 4-ch, 12-bit (32kHz) embedded digital audio

Supported DTE Technology File Formats

RawDV (.dv), AVI Type 1 (.avi), AVI Type 2 (.avi), Canopus AVI (.avi), Matrox AVI (.avi), QuickTime (.mov) or Avid DV-OMF (.omf)

Disk Information

- Internal Disk Type (Slot): FSHDD-1 FireWire Disk Drive
- External Disk Type: User Supplied IEEE-1394a FireWire
- Disk Format: FAT32
- FAT32 FireWire HDD compatible with Windows 98SE, ME, 2000, XP and Mac OS9 and OS10

Compliance and Warranty

- CE, C-Tick and FCC

3.5mm to DB9 Serial Cable

<u>DB9 Connector</u>	<u>3.5MM Jack</u>
Pin 2 ->	2 (middle)
Pin 5 ->	3 (barrel or shaft)
Pin 3 ->	1 (tip)

NOTE: It is possible to download the latest Serial Control Communication Specification for FS-3 from:

<http://www.focusinfo.com/support>

Panel Mount 4-pin XLR Power Input



Pin 1	BLACK (-)
Pin 4	RED (+)

FS-3 LCD DISPLAY AND TALLY MODES

The table below details the different LCD and tally light characteristics when used with different FS-3 control, record, play and stop modes:

PLAY/REC MODE	FS-3 LCD	TALLY
Stop	STOP	Off
Pause	PLAY	Off
Play	> PLAY	Off
Rec (Pause)	REC	Blink
Normal Rec (Rec)	REC	On
Retro Disk (Stop)	L STOP	Off
Retro Disk (Standby)	L REC	Blink
Retro Cache (Stop)	C STOP	Off
Retro Cache (Standby)	C REC	Blink
Loop Record (Stop)	O STOP	Off
Loop Record (Standby)	O REC	Blink
Loop Record (Rec)	O REC	On
Snap (Stop)	STOP	Off
Snap (Standby)	SNAP	On
Snap (Rec)	SNAP	On
Time Lapse (Stop)	STOP	Off
Time Lapse (Pause)	T REC	Blink
Time Lapse (Rec)	T REC	On

CONTROL TYPE	FS-3 LCD	TALLY
AV/C* (Stop)	A STOP	Off
AV/C* (Rec Pause)	A <REC TYPE> REC	Blink
AV/C* (Rec)	A <REC TYPE> REC	On
AV/C* (Play Pause)	A PLAY	Off
AV/C* (Play)	A ALL	Off
Syncro Slave (Pause)	Y <REC TYPE> REC	Blink
Syncro Slave (Rec)	Y <REC TYPE> REC	On

* AV/C is only for use when FS-3 is connected to a computer system. To control FS-3 from a camcorder, use Syncro Slave Mode.

NOTES:



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